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ABSTRACT

The paper examines trends of postponement of marriage among women in their early twenties. Data for the study were taken from a national longitudinal study of 5,159 women (ages 14 to 24) who were interviewed from 1968 to 1975. The author specifically examined the young women for three characteristics: current employment status, level of education, and long-run expectations about labor force participation. Between 1969 and 1975 the proportion of single women in their early twenties who planned to be housewives decreased sharply. Consequently, the change in future work plans reduced the chances that a woman in her early twenties would marry in the next few years. Previously, single women in their early twenties who had more education were more likely to marry in the near future. Yet because the decline in those planning to be housewives was greater for women with more education, women whose level of education gave them a stronger marriage market position were more likely to change their future work plans in a way which reduced their probability of marriage. The author compares aspects of this trend among black and white women, and explores implications of the shift in work expectations for other changes in family life. (Author/AV)

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Postponing Marriage: The Influence of Schooling, Working, and Work Plans for Young Women.

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In the past twenty years, American family life has changed greatly. Between 1957 and 1975, the period total fertility rate--the predicted number of children a woman will bear in her lifetime--dropped from 3.8 to 1.8 (U.S. Bureau of the Census 1975b, 1977). During the same interval, the divorce rate more than doubled (Norton and Glick 1976), although it may now be stabilizing (U.S. National Center for Health Statistics 1978). And the first marriage rate has continued its long, slow decline toward the low rates of the Depression (Carter and Glick 1976). Meanwhile, married women have entered the labor force in large numbers, with the result that nearly half of all wives now work outside the home (U.S. Bureau of the Census 1977).

Since the family is one of our fundamental social institutions, changes in family life have important implications for the entire society. Consequently, a number of social scientists have investigated the reasons behind these trends. Perhaps the most elaborate attempt is Easterlin's (1968) socioeconomic theory of fertility swings. In his work, Easterlin explores the connections among tastes for material goods, labor market opportunities, and the birth rate. Others have attempted to explain the rise in the labor force participation rate of married women in terms of labor supply or the demand for female labor (Cain 1966, Bowen and Finegan 1969, Oppenheimer 1970). And some researchers have suggested that the increasing rate of female labor force participation is one reason for the increase in divorce and separation (Ross and Sawhill 1975).

But of all the recent changes in family life, we perhaps know least about the postponement of first marriage. This trend is most apparent among those in their twenties, and especially among those in their early twenties. Between 1960 and 1976, for instance, the proportion of 20 to 24 year old women who had never married increased from 28 to 43 percent; and since the mid-1950s, the average age of an American bride has advanced about one year (U.S. Bureau of the Census 1975a).

The postponement of marriage, if it continues, will add to the changes now occuring in family life. Demographers have found that women who marry later tend to bear fewer children (Westoff and Ryder 1977). As a result, the later start is likely to alter the amount of time a married couple spends in the early stages of the family life-cycle, such as child-bearing and child-rearing. And since an earlier age at marriage is associated with a higher probability of divorce (Bumpass and Sweet 1972), the trend toward later marriage might reduce the divorce rate. Finally, for some men and women the postponement of marriage might be permanent, which would raise the proportion of the population that never marries.

A study of the determinants of this trend, then, would give us a better understanding of the process of family change which is occuring today. But one reason for our lack of knowledge about marriage postponement is the inadequacy of much existing data (Sweet 1977). Most studies of entry into marriage have relied on one-time, cross-sectional surveys. Yet while we can discern the current characteristics of married women from a cross-sectional survey, we cannot be sure what their characteristics were before they married. Consequently, it is difficult to distinguish attributes which affect the probability of marriage from those which are affected by marriage.

But unlike cross-sectional surveys, a national study begun in 1968 does allow us to follow young, single women for several years. The National Longitudinal Survey of Work Experience in Young Women (which I will call the "NLS"), consists of annual, face-to-face interviews from 1968 to 1973 and a telephone interview in 1975 with a national sample of 5,159 women who were aged 14 to 24 in 1968. These interviews, which were conducted by the Bureau of the Census for the Center for Human Resource Research at Ohio State University, are described in detail in Mott et al. (1977). Black women were over-sampled and constituted 1,459 of the 5,159 respondents.[1/]

Because the study was designed primarily to measure work experience, it contains less information about non-work-related influences on marriage than we might like. But for information on the work lives, educational experiences, social demographic backgrounds, and marital and family events of young women as they mature, it is possibly the best set of survey data available. From the annual interviews, we can monitor thousands of young women during the peak years of marriage. (The national median age at marriage in 1970 was 20.8 for women.) We can investigate how work behavior, future work plans, schooling, and other characteristics of young women affect the probability of marriage. And since working and schooling are important parts of life for young women, an analysis of the NLS panel should enlighten us as to the determinants of the timing of marriage and the reasons behind the postponement of marriage. In this paper I will examine the delay in marriage for women in the NLS panel who were in their early twenties--the age group which has delayed marriage most in recent years.

There are two ways in which the proportion of all women in their early twenties who are single (by which I mean never-married) could increase. First, the proportion of women who are single when they enter their twenties could increase. Second, the proportion of single women in their early twenties who remain single throughout this age range could increase. Here I will be concerned with the latter situation: why single women who are already in their early twenties are postponing marriage. And I will pay particular attention to three characteristics of the young women: their current employment status, their level of education, and their long-run expectations about labor force participation.

Age at Marriage: Past and Present

Despite the large changes in the timing of marriage since the 1950s, the

present situation is not unique historically. During the 1950s and early 1960s, we became accustomed to a very low proportion single among women in their early twenties. From this perspective the currently higher proportions single seem to be a considerable departure from the usual patterns of marriage and family formation. Figure 1, which shows the percentage single for all women aged 20-24 and 25-29 from 1890 to 1976, confirms that the change since 1960 has been large. Many more young women now are single in their twenties than were comparable women twenty years ago.

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Insert Figure 1 About Here

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However, the long-term trend, as presented in Figure 1, suggests that the current percentage single for women in their twenties is far from aberrant--it is closer to the norm for the 1890-1940 period than was the percentage single in the 1950s. As the reader can see, the percentage single declined very slightly from 1890 to 1940. But immediately following World War II, the percentage single fell sharply, and it fell even lower by 1960. Since 1960, though, the percentage single has moved upward toward pre-World War II levels. Viewed historically, then, the post-war period of early marriage seems more unusual than either the current period or the 50 years preceding the war.

Yet this does not mean that life is the same for young single women now as it was in the early decades of this century, nor does it mean that decisions about marriage are made in the same manner. The long-term perspective means only that the current level of singleness is not unprecedented and will not necessarily disrupt the existing marriage and family system. In fact, Figure 1 indicates that most young women are not abandoning marriage, just postponing it. We can deduce this from the modest rise in the percentage single at ages 25-29,

which has not kept pace with the larger rise among those 20-24. In 1976, only 15 percent of all 25-29 year old women were still single. And based on the marital histories of older women, it is likely that many of these single 25-29 year old women will marry eventually.

Nevertheless, the postponement of marriage has important consequences for family life, as I have mentioned. Using the NLS data, we can examine this delay in more depth. As noted above, women in their early twenties have shown the largest increases in marriage postponement. (See Carter and Glick 1976 for a detailed demographic analysis.) Each annual interview of the NLS panel provided information about women in this age group, as the teenagers in the panel grew older and replaced those who entered their late twenties. And because the same women were reinterviewed every year, we can isolate the single women in their early twenties in a given year and then see which of them got married in subsequent years and which remained single. Then by comparing the initial characteristics of those who remained single with those who married, we can estimate the effects of these characteristics on the probability of marriage.

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Insert Figure 2 About Here

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Figure 2 shows the probability of marriage during a subsequent two-year period for women in the NLS panel who were aged 20-24 and single at the start of the period. (I chose a two-year interval so that the 1973 to 1975 interval would be comparable to the other intervals--recall that there was no interview in 1974--and because the use of two-year intervals resulted in substantial variation in the number of marriages among different groups of women in the panel.) Thus, white women who were 20-24 and single in 1968 had a probability of .41 of marrying by 1970, whereas the corresponding probability was .28 for blacks.

Five years later in 1973, single, white women aged 20-24 had a probability of .32 of marrying by 1975, and for blacks the probability was .18. Two aspects of Figure 2, then, stand out: first, a decline during the study in the probability of marriage of .09 for whites and .10 for blacks; and second, the persistent racial difference in the probability of marriage. I will have more to say about both aspects later.

Work, Schooling and Marriage

But now let us consider how schooling, work behavior, work plans for the future, and other social demographic characteristics of these single women might have affected the probability of marriage. It is well-known that the more schooling a woman has, the older she is likely to be at her first marriage (Sweet 1977). Census data, for example, show that among women who have married at least once, the higher their age at first marriage, the greater is their average educational attainment--with the exception of women who marry at late ages (Carter and Glick 1976). And two recent multivariate analyses of survey data for married women also show that greater educational attainment is associated with higher ages at first marriage (Voss 1976; Alexander and Eckland 1978). This relationship may be due to the difficulty of combining full-time attendance at school with family responsibilities. Or it may be due to other characteristics which are associated with having more education. In any case, this well-documented, positive association between more schooling and age at first marriage might lead us to expect that among single women in their early twenties in the NLS panel, those who have more education will remain single longer.

But this expectation would be incorrect. Actually there is good reason to predict that of all single women in their early twenties in the panel, those with more education will marry sooner. The argument is as follows. The studies

which showed that more schooling meant an older age at marriage were based on surveys of all the women--single and ever-married--of a given age. When we look back at the marital histories of these age cohorts, we do find that those women with more education tended to delay marriage. The same will be true eventually for the age cohort of women who were in their early twenties during the NLS study. But the NLS women who were in their early twenties and still single formed only a portion of this cohort--the portion that had already delayed marriage beyond the time when others in their cohort had begun to marry. Some of these still-single women were high school drop-outs, but many others had some college education. As a result, the average educational attainment of the still-single women probably had surpassed already the average educational attainment at marriage for the women in their age cohort who had married while in their teens.

Yet for the women who were still single in their early twenties, educational attainment was a resource which placed them in a better position to marry. If we accept the familiar idea that there is a marriage market among single men and women, then it is to be expected that more schooling would improve a woman's market position. The traditional explanation for why schooling strengthens a woman's market position is that women with more schooling have better opportunities to meet men with more schooling. And men with more schooling, so this reasoning goes, are more desirable spouses because they confer higher status on their wives and they have higher potential earnings (see Elder 1969). For example, men in college tend to date women in college, so that if a woman does not attend college, she is less likely to meet a man who does.

In this traditional view, a woman trades physical attractiveness and personal skills for a husband's income and status. Education only serves to broaden a woman's access to desirable men. But now that many wives--soon a majority--work outside the home, a woman with a higher level of schooling also is a source

of income and status for a man (Taylor and Glenn 1976; Oppenheimer 1977). Today a woman with a college degree may be more likely to marry because her schooling makes her a more desirable spouse in her own right. And, in addition, some of the single women in their early twenties with a high school education may have been unsuccessful already in the marriage market, while those with a college degree may be entering the market for the first time. Whether education makes a woman a more desirable spouse or helps a woman meet a more desirable man, a single woman in her early twenties with more schooling should be more likely to marry than a comparable woman with less schooling. This should be true even though, for all women in her cohort, age at marriage will vary inversely with educational attainment.

Other studies might lead us to expect that single women in the NLS panel with more attractive work opportunities would delay marriage. Two cross-sectional studies using 1960 Census data for counties, S.M.S.A.'s, and states demonstrated that the proportion of women in various age groups who were married varied inversely with the earnings of employed women (Freiden 1974; Preston and Richards 1975). Preston and Richards also reported that the proportion married at ages 22-24 was lower in S.M.S.A.'s with a greater demand for the types of jobs usually filled by women. In addition, a number of studies based on panel data have shown that married women with the potential to earn higher wages are more likely to divorce or separate in the future, other things being equal (Cherlin, 1978, 1979; Ross and Sawhill 1975). Here, as in the cross-sectional studies of marriage, the explanation is that better work opportunities give women an independent source of income which enhances their ability to lead independent lives. If this principle were relevant for single women in their twenties, we might hypothesize that single women with better work opportunities would lead lives independent of men for a longer time and would, therefore, tend

to postpone marriage.

But in fact, as I will demonstrate below, single women in the panel who worked more weeks during the previous year were more likely to marry, although this relationship was weak and not statistically significant. And indices of the demand for female labor in the woman's labor market and the mean income of employed women in her state had no significant effects. The lack of effect may due to offsetting influences: better work opportunities increase a woman's independence, but they also increase the earnings potential she brings to a marriage, thus raising her standing in the marriage market. We cannot predict which of these two effects is stronger. A second reason why working may not decrease the probability of marriage is that for single women working is part of the usual course of life. Unlike married women, who often choose between housework and labor market work, single women have always participated in the labor force, unless they were in school. The bulk of the female labor force, until the last few decades, consisted of single women (Oppenheimer 1970). In the early decades of this century, when a woman married, she simply stopped working. Today, she will probably remain at work, at least until she bears a child, and possibly even then (Glick and Norton 1977). But most single women who are out of school are at work, and because there seems to be no conflict between working and finding a husband, working may not delay marriage.

Yet once a woman marries, housework and child-care compete for her time with market work. Although many wives do both, the combination of housework and market work can be difficult. Consequently, single women who plan to be full-time housewives may marry sooner than those who plan to continue working outside the home later in life. Thus, the long-term expectations of young single women about market work might be more important determinants of the timing of marriage than their current employment status. The NLS data provides an opportunity to

test this proposition using the responses to a question about the young women's work plans for when they are age 35. And if there has been a decline in the proportion of women who plan to become full-time housewives later in life, then this change in future work plans might account for part of the recent decline in the probability of marriage. This is, in fact, what the NLS data show, as I will demonstrate now.

Methods

Because changes in age strongly affect the probability of marriage for young women, I wished to perform statistical analyses on groups of women in narrow age ranges. But I also wanted to avoid dividing the panel into groups whose size was very small, and I wanted to use data from as many years of the panel as possible. I decided, therefore, upon the following data analysis procedure. First, I divided the single women in their early twenties into two groups: those 20 or 21 and those 22 or 23. Next, I pooled the single women who were 20 or 21 at the 1969 interview with those who were 20 or 21 at the 1971 interview and those who were 20 or 21 at the 1973 interview. Because the two-year age range matched the two-year interval between interviews, there was no overlap among the three sets of 20-21 year olds pooled. I also pooled the single 22-23 year olds exactly the same way. All these groupings were done separately for blacks and whites. As a result, there were four final, pooled groups: 20-21 year whites, 20-21 year old blacks, 22-23 year whites, and 22-23 year old blacks.

I then specified two models of the probability of marriage for each group. In the first model, which I will call the linear probability model, the dependent variable was the probability of marriage during a subsequent two-year interval. For each woman i, this probability was assumed to depend linearly on a set of k

independent variables, x_1 through x_k:

$$p_i = \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_k x_{ik} + e_i .$$

Unbiased estimates of the parameters of this model can be obtained by assigning each woman a score of one on the dependent variable if she married during the interval and a score of zero if she did not, and then applying the ordinary least squares estimating procedure. In other words, for women who were 20-21 in 1969, the dependent variable was coded one if they married by the 1971 interview and zero if they remained single, and the independent variables were taken from the 1969 interview. Similarly, for women who were 20-21 in 1971, the dependent variable was one if they married by 1973 and zero otherwise, and the independent variables were from 1971. And for those who were 20-21 in 1973, the dependent variable was one if they married by 1975 and zero otherwise, and the independent variables were from 1973. The same procedure was applied to the 22-23 year olds.

But since the dependent variable in this model is dichotomous (taking on only the values one and zero), the disturbances are heteroskedastic, which means that the estimates are inefficient. And, in addition, it is possible for the predicted values of the dependent variable to fall outside the range of zero to one.[2] For these reasons, I specified a second model, which I will call the linear log-odds model. In this model, the dependent variable is the natural logarithm of the odds of marrying during a subsequent two year interval, where the odds are defined as the probability of marrying divided by the probability of not marrying. As in the first model, the dependent variable is assumed to depend linearly for each woman $\underline{i}$ on a set of $\underline{k}$ independent variables:

$$\log [p_i/(1-p_i)] = \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_k x_{ik} + e_i .$$

This model is sometimes known as the logistic model, because if it holds the probabilities follow the logistic probability distribution. Maximum likelihood estimates of the parameters of this model can be obtained by an iterative

procedure which maximizes the joint likelihood function for all observations. And since the log-odds can range from minus infinity (as p approaches zero) to positive infinity (as p approaches one), it is impossible for the predicted values of the dependent variable to lie outside its actual range.

Despite the statistical superiority of the linear log-odds model, the more common linear probability model is often sufficient in practice. This is because the problems of inefficient and inadmissible estimates tend to be much less severe when the mean of the dependent variable is between .25 and .75 (Knoke 1975; Goodman 1976). And since the means of the dichotomous dependent variables in three of the four pooled groups considered here are within these limits[3], the linear probability model may be adequate here. I have, however, estimated both the linear probability and the linear log-odds models for each group in the analysis, so that we may compare the two.

The independent variables in the model were as follow:

1. Grades of School Completed: three categories for 20-21 year old women, corresponding to less than twelve grades (the omitted category in the model), twelve grades (a high school degree), and more than twelve grades (at least some college). For the aged 22-23 groups I used four categories: less than twelve grades (the omitted category), twelve grades, thirteen to fifteen grades (some college), and sixteen grades or more (at least a college degree). Only a few 20-21 year olds had finished college, and few women in either age group had any postgraduate education completed.

2. College Enrollment: a dummy variable coded one if the woman was enrolled full-time at a college or university as an undergraduate or graduate student and coded zero otherwise.

3. Weeks Worked: the proportion of all weeks during the previous year in which the woman had worked.

4. Children: for blacks, a dummy variable coded one if the woman had a child of her own living in her household or if she was responsible for at least half of the financial support for a child of hers residing elsewhere, and coded zero otherwise. Few single white women had their own children in their households.

5. Plans at Age 35: At each interview from 1969 to 1975, the women were asked this question: "Now I would like to talk to you about your future job plans. What kind of work would you like to be doing when you are 35 years old?" Although the wording of this question strongly implied that the women should respond with some type of labor market work, a substantial proportion of the women replied that they planned to be married and keeping house or raising a family. I created a dummy variable coded one if a woman gave this "housewife" response and coded zero otherwise. This dummy variable, then, measures whether women plan to be full-time housewives at age 35, on the one hand, or whether they plan to work in the labor force or to combine labor market work with home work, on the other hand.

In this specification of the independent variables, I assumed that the parameters were the same whether a woman was pooled from the 1969, 1971, or 1973 interviews. I tested this assumption for each of the four pooled groups. For example, for whites aged 20-21, I estimated the parameters of three separate linear probability models for those who were 20-21 in 1969, 1971, and 1973. I then pooled these three sets of white, 20-21 year olds and estimated the parameters of a single model for the entire group. Under the null hypothesis that the parameters of the model are the same for each of the three sets of white, 20-21 year olds, an F-test can be constructed from the residual sums of squares of these estimates (Fisher 1970). The F-statistic was not significant, indicating that the null hypothesis of equivalence could be accepted. Thus, pooling was justifiable statistically. Similar procedures also produced non-significant F-statistics for white 22-23 year olds and for black 22-23 year

olds. But for blacks aged 20-21, the statistic was significant at exactly the five percent level, indicating that the null hypothesis was possibly incorrect. Nevertheless, since pooling seemed appropriate for the other three groups, and since this significance level was marginal, I decided to pool also the 20-21 year old blacks.

There are other relevant variables which I could not measure for every year of the study. We know, for instance, that women tend to marry men who are a bit older. As a result, the probability of marriage for a woman is affected by the ratio of the number of women who are her age to the number of men who are a few years older (Preston and Richards 1975; Freiden 1974; Carter and Glick 1976). And the ratio of women of marriageable age to older men has increased recently due to the steady rise in the birth rate which occured in the late 1940s and the 1950s. Consequently, single women have been caught in a demographic "marriage squeeze" (Carter and Glick 1976), which will abate as the cohorts born in the 1960s reach marriageable ages. But the annual statistics on the sex ratio are not detailed enough for inclusion in this analysis. In addition, there are no annual measures of other possibly important socioeconomic characteristics of the woman's environment. These include the mean earnings of men and women in the area, the ease of divorce, and the male and female unemployment rates. It was possible, however, to obtain data on these and other characteristics at the state level from the 1970 Census of Population and from vital statistics sources, and to append this state-level information to the records of women in the study who were single and aged 20-23 in 1970. Consequently, in a separate analysis, I estimated a linear model of the probability of marriage by 1972 for single women aged 20-23 in 1970. But after individual characteristics were included in the equation, the addition of several state-level characteristics failed to increase the proportion of variance explained significantly.[4]

Furthermore, there were several environmental variables which could have been relevant and which were measured each year, but which did not prove to have effects of any reasonable size on the probability of marriage. For example, the population size of the woman's labor market had no effect in any of the models I estimated. Nor did an index of the demand for female labor in the woman's labor market have an effect. This index measures the extent to which the jobs in an area are those which tend to be filled by women (see Bowen and Finegan 1969). Greater femininity of the job market, as measured by this index, was associated with a lower proportion married among all young women in an S.M.S.A. in 1960, according to Preston and Richards (1975). But in the present study it was not associated with an individual woman's probability of marriage. In fact, none of the environmental variables I considered seemed to have effects once individual characteristics were controlled. This may be because state or labor market statistics are imprecise estimates of the actual conditions facing an individual, although they may be good estimates of the conditions faced, on the average, by a group of individuals.

Another variable not in the equations is wage levels. Many young women are not working, and it would be necessary to estimate a wage for them. But for young women of the same age and race, who tend to have little work experience, a predicted wage would be largely a function of schooling and recent work experience. And since I have included schooling and weeks worked in the previous year in the model, I felt that also including a predicted wage would be redundent. It is possible, therefore, that the effects of schooling on marriage, which I report below, are transmitted in part through the effects of schooling on women's wage rates. In addition, an index of parental socioeconomic status proved to be non-significant in preliminary specifications. And finally, the NLS interviewers did not ask women their religion, although others have shown

that Catholic women tend to marry later (Ryder and Westoff 1971).

Results

In Table 1, I present estimated parameters for the linear models of the probability of marriage and the log-odds of marriage during a two-year interval for white and black women, aged 20-21 and 22-23, who were single at the start of the interval. Comparing the probability and log-odds models, we see that the signs of the estimated parameters and their significance levels are virtually identical. As a result, I will discuss the results in terms of the more familiar linear probability model. In all cases, women with the highest level of schooling had the highest probability of marrying during the next two years, and in three of the four groups, the coefficient for the highest schooling level was significant at the five percent level. Clearly a high level of schooling increased the chance that a single woman would marry. For whites in both age groups and for younger blacks, women without a high-school degree (the omitted category) had the lowest probability of marrying, while for the older blacks those in the middle categories--a high school degree or some college--had the lowest probabilities. Those enrolled in college at the start of the interval. however, were less likely to marry, according to the negative estimates in three of the four equations. But this effect was weak and unreliable--none of the coefficients for enrollment were statistically significant.

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Insert Table 1 Here

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We see, then, that more education did not lead single women in their early twenties to postpone marriage further. On the contrary, more education led them to marry sooner. Women with more schooling may have avoided marrying in

their teens, thus raising the over-all average age at marriage. But once they reached their twenties, single women with the most schooling married fastest. As I have argued, schooling may be an asset for women in their twenties which strengthens their position in the marriage market.

As for working, in three of four equations the more weeks a woman previously had worked, the more likely she was to marry during the subsequent two-year interval. But none of the coefficients were statistically significant. That weeks worked had only a weak effect on marriage probabilities may be because, as I noted above, working is something most single women have always done and continue to do, even while looking for a spouse. Or it may be that working has compensating positive and negative effects on the chances of marriage, because greater earnings from work increase a woman's independence but also increase her attractiveness to a man.

But while current work behavior had little effect on marriage, future work plans did have an effect. Women who planned to be full-time housewives at age 35 were more likely, in three of the four age-race groups, to marry than were those who planned to be working outside the home. The effect was stronger for the 22-23 year old women--the coefficients were positive and significant at the five percent level for both whites and blacks--and also was positive and significant at the six percent level for 20-21 year old whites. For 20-21 year old blacks, however, the coefficient was negative and not significant. With the exception of the younger black women, then, it appears that women who plan to be working outside the home later in life recognize the difficulty of combining market work with marriage and postpone their marriages accordingly.[5]

And the size of the effect was considerable. Take the case of two women who were both average, in terms of their age-race group, on all variables in the equation, except that one planned to be a housewife and the other planned to work outside the home at age 35. For white 22-23 year olds, the woman planning to be

a housewife would have a predicted probability of marriage of .40 during the next two years, compared to a predicted probability of .29 for the woman planning to do market work. For blacks aged 22-23, the woman planning to be a housewife also would have a predicted probability of marriage of .40, but this would be double the predicted probability of .20 for a woman expecting to work outside the home. Fewer black women, however, planned to be housewives than did white women, as the mean values in Table 1 show.

That fewer black women planned to be housewives is to be expected, since black married women have always had higher rates of labor force participation than white married women. In fact, there were several differences in the situations of the white and black single women in the NLS study. As Figure 2 showed above, blacks were much less likely to marry than whites. And perhaps the sharpest difference was in the presence of children: 44 percent of the pooled 20-21 year old sample of blacks and 59 percent of the pooled 22-23 year old blacks had a child of their own present in their households or were responsible for half the support of a child of theirs living elsewhere. For white women the comparable figure was two to three percent.

It seems then, that for many young black women, having a first child and getting married are separate events in life. Yet having a child does not decrease a black woman's probability of marrying in the next two years. In the equations for blacks in each of the two age groups, I included a dummy variable coded one if the woman reported the presence of a child and coded zero otherwise. The estimated coefficients and their significance levels were near zero. We must conclude that the number of births out of wedlock among black women has little if anything to do with the decline in the probability of marriage among those in their early twenties. Although many black women are having children while single, those with children are just as likely to marry as the childless. Per-

haps having a child before marrying has two balancing effects: if the mother marries the child's father this usually will occur soon after the birth; but if the mother does not marry the father, the presence of a child may deter future suitors. Together, these effects may leave the average probability of marriage in a two year interval unaffected.

From Table 1, we can obtain a rough estimate of the contribution of racial differences in educational attainment and in work plans to the racial difference in the probability of marriage. We can approximate the situation where blacks have the same level of education and the same work plans as whites by substituting the white means for these variables into the equation for blacks and then calculating a predicted probability of marriage for blacks, using the black means for all other variables. (This procedure is necessarily crude because if blacks had the same level of education as whites the estimated coefficients of the black equation also might change.)

For example, 22-23 year old blacks have an observed mean probability of marriage of .257, compared to .338 for 22-23 year old whites. But if these black women had the same educational distribution and work plans as their white counterparts, their predicted probability of marriage would be .347, which is higher than the observed value for whites. For 20-21 year olds (where the estimated coefficient for work plans for blacks was unexpectedly negative and not significant) the effect is smaller but in the same direction: the observed values are .220 for blacks and .386 for whites, but the standardized value for blacks is .246. Together, these results suggest that the lower average educational attainment for blacks and their greater tendency to expect to be in the labor force at age 35 account for a substantial portion of the racial difference in the probability of marriage.

Nevertheless, it is clear that for both races much of the variation in the

probability of marriage is not accounted for by schooling, work, and work plans. The squared multiple correlation coefficients range from .01 to .09, with the 22-23 year olds showing higher amounts of variance explained. In part, these low values appear to be typical of ordinary least squares estimates when the dependent variable is dichotomous and skewed. But despite the low proportion of variance explained, levels of schooling and future work plans still have large effects, as I have demonstrated. And these significant effects suggest a partial explanation for the trend toward postponing marriage, an explanation to which I now turn.

The Trend toward Later Marriage

We have seen that the probability that a single woman in her early twenties would remain single increased during the years of the NLS panel (see Figure 2). Let us investigate whether changes in the work plans of 20-23 year olds might account for some of this increase. During the 1960s and 1970s, the labor force participation rates of married women have continued their long-term rise (U.S. Bureau of the Census 1977). We might anticipate, then, that during the years of the NLS panel the young, single women would have become more likely to plan to work later in life. This change in work plans did occur, at least among the single women in their early twenties in the panel. In just six years, as Table Two shows, the proportion of white, single women aged 20-23 who planned to be housewives at age 35 declined from about one-half to about one-quarter. For comparable black women, the proportion declined from about one-third to about one-fifth. The sharp decline was similar for the 20-21 year olds and the 22-23 year olds.

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Insert Table 2 About Here

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Furthermore, the change was most pronounced for women with more education. In Table 3, I present the proportion of women planning to be full-time housewives in 1969 and 1973 by educational level. Looking first at the 20-21 year olds in 1969 and 1973, we see that the proportion planning to be housewives actually rose among women who had less than twelve grades of education. Among those women with a high school degree, however, the proportions declined 14 percentage points for whites and 18 percentage points for blacks. And among women with one or more years of college completed, the proportion dropped 20 points for whites and 18 points for blacks. The pattern is the same for the 22-23 year olds in 1969 and 1973; the proportion planning to be housewives increased for those with less than a high school degree and decreased for the others, including a 35 percentage point drop for whites with a college degree. For whites in both age groups, then, the steepest drops occured among those women with the most education. For blacks, the pattern was more variable, but still those with more education tended to have larger declines.[6]

What these figures imply is that the change in future work plans was greatest for those women whose schooling gave them the highest probability of marrying. Recall from the results in Table 1 that, other things being equal, women with the most education were most likely to marry in the next two years. But these were the women who registered the sharpest declines in the proportions planning to be full-time housewives. And, as we also saw, women who planned to be housewives were more likely to marry.

Consequently, between 1969 and 1973, the very women who were most likely to marry according to their level of schooling, also were most likely to change their future plans in a way which reduced their probability of marriage. Those women with less education--and correspondingly lower probabilities of marriage to begin with--changed their future plans less. Thus, not only did future work

plans change greatly, but they changed in precisely the way which maximized their impact on the probability of marriage.

We can calculate estimates of the effect of changes in the proportion planning to be housewives from the data. Among all single, white women who were 22-23 years old, the probability of marriage in a subsequent two-year interval declined from .345 in 1969 to .290 in 1973--a drop of .055. During the same period, according to Table 2, the proportion of these same women planning to be housewives at age 35 declined from .516 to .332. This drop of .182 in the proportion planning to be housewives, when multiplied by the coefficient of .115 for work plans for 22-23 year old whites in Table 1, predicts a drop of .0210 in the probability of marriage. Thus, the change in future work plans accounted for ([.0210 x 100] ÷ .055 =) 38 percent of the over-all decline in the probability of marriage for white, 22-23 year old women. (This method should be viewed as a rough approximation only, because a change in work plans would likely change the values of other variables also, thus altering further the predicted probability of marriage.) By a similar calculation, the drop in the proportion planning to be housewives accounted for 35 percent of the drop in the probability of marriage for black, single women aged 22-23, and 12 percent of the drop in the probability of marriage for white, single women aged 20-21. (For black women aged 20-21 the coefficient for work plans in Table 1 was negative and not statistically significant.)

Moreover, changes in work plans accounted for more of the change in marriage probability for those with more education. For example, among white, single women aged 22-23 who had a college degree, the probability of marriage during the next two years fell from .410 in 1969 to .309 in 1973, a drop of .101. And the proportion planning to be housewives, as shown in Table 3, fell from .525 to .172, a drop of .353. Therefore, the change in work plans accounted for

([.353. x .115 x 100] ÷ .101 =) 40 percent of the change in the probability of marriage. But for comparable white women with twelve years of schooling or less, the change in work plans accounted for only 21 percent of the change in the probability of marriage.

Discussion

We have seen evidence that the increase in the proportion of single women planning to work outside the home later in life was a cause of the decline in the probability of marriage among women aged 20-23 in the late 1960s and early 1970s. The effect was stronger for white and black women aged 22-23, but it was also noticeable for white women aged 20-21. The change in future plans was quite large--the proportion planning to be housewives, as opposed to those planning to work outside the home, declined from about one-half to about one-quarter for whites, and from about one-third to about one-fifth for blacks between 1969 and 1975.

In addition, the effect of this change in work plans on the probability of marriage was greatest for women with the most education. And I reported that, contrary to what we might expect based on cross-sectional studies of age at marriage, single women in their early twenties with more schooling were more likely to marry than single women with less education. More schooling may well decrease the chances that a teenage woman will marry, and this would, in turn, increase the proportion of all women who enter their twenties still single. But I argued that among women who are single and already in their twenties, more education strengthens their position in the marriage market. Increased schooling makes them more desirable partners and increases their access to desirable males. Yet over the course of the study, women with more education showed sharper declines in the proportions planning to be housewives. And this meant that their probabilities of marriage also declined. As a result, women whose

education made them the most desirable marriage partners became, at least for the moment, much less desirous of marrying.

The NLS study showed, then, that the future work plans of single women influenced the likelihood that they would marry. But the study also indicated that current work activities had little influence on the probability of marriage. In all likelihood, whether a woman was working did not matter because there is no conflict between being in the labor market and being in the marriage market. Unless they were in school, single women have always worked while they were looking for husbands. But after a woman marries and has children, working outside the home begins to compete for her time with child-care and other household work. The results presented here suggest that young women recognize the difficulty of simultaneously starting a career and starting a family. And many of those who plan to build life-long careers rationally respond to this problem by postponing marriage until their careers are well under way.

A detailed examination of why single, young women's work plans changed so greatly during this period is beyond the scope of this paper. But the most obvious influence is the steady increase during the 1960s and 1970s of the labor force participation rate of young and middle-aged wives. There are at least two ways in which this increase could have affected the single women in the NLS panel. First, their mothers may have entered the labor force in increasing numbers in the 1950s and 1960s, thus providing them with a new role model. Second, the single women may have been influenced by the rising labor force participation rates of young married women during the survey period, 1968-1975. If either of these effects was operating, we might expect that continued increases in married women's labor force participation will produce further increases in the proportion of young, single women who plan to work outside the home later in life.

Yet it is also possible that some special characteristics of the late 1960s and early 1970s affected the change in work plans. The period of the NLS survey was a time in which many young people--especially those in college--were participants or spectators in social movements such as the Vietnam War protests or the growth of feminism. And the NLS surveys indicate that young women with a college education showed the greatest change in work plans. Perhaps the climate of the late 1960s and early 1970s exerted a unique influence on the attitudes of young women--particularly college women. And if so, then the lessened activism of the late 1970s might act to reduce the proportion of young women who will expect to work outside the home as middle-aged adults.

Finally, the effect of work plans on the postponement of marriage suggests that other long-run expectations may play an important role in the process of family change. Just as young women have changed their work expectations, young people may have modified other expectations relevant to family life. For instance, Westoff and Ryder (1977) have documented a large increase in the use of effective methods of contraception in recent years: less than ten percent of all couples in 1960 who were not trying to have children were using the pill, the IUD, or surgical sterilization; but by 1970 more than fifty percent were using one of these methods. As a result, young people may now be entering adulthood with the firm expectation that they will be able to plan the timing of the births of their children or that they can plan not to have children but still have intimate relationships. Such a change in long-run expectations about fertility control could influence their behavior in a wide range of marital and family situations. The results from the NLS survey remind us, then, that people's expectations about their family life in the future may produce changes in family life today.

Footnotes

1. Between 1968 and 1975, 916 (or 18 percent) of the women left the panel. Nineteen percent of the black women left as opposed to 16 percent of the white women. And single women were somewhat more likely to attrite than married women, by about the same margin. But those who left the panel did not differ significantly from those remained with respect to age or parental socioeconomic level.

2. Although inadmissable estimates are possible, none of the predicted values of the probability of marriage were less than zero or greater than one in any of the ordinary least squares estimates presented here.

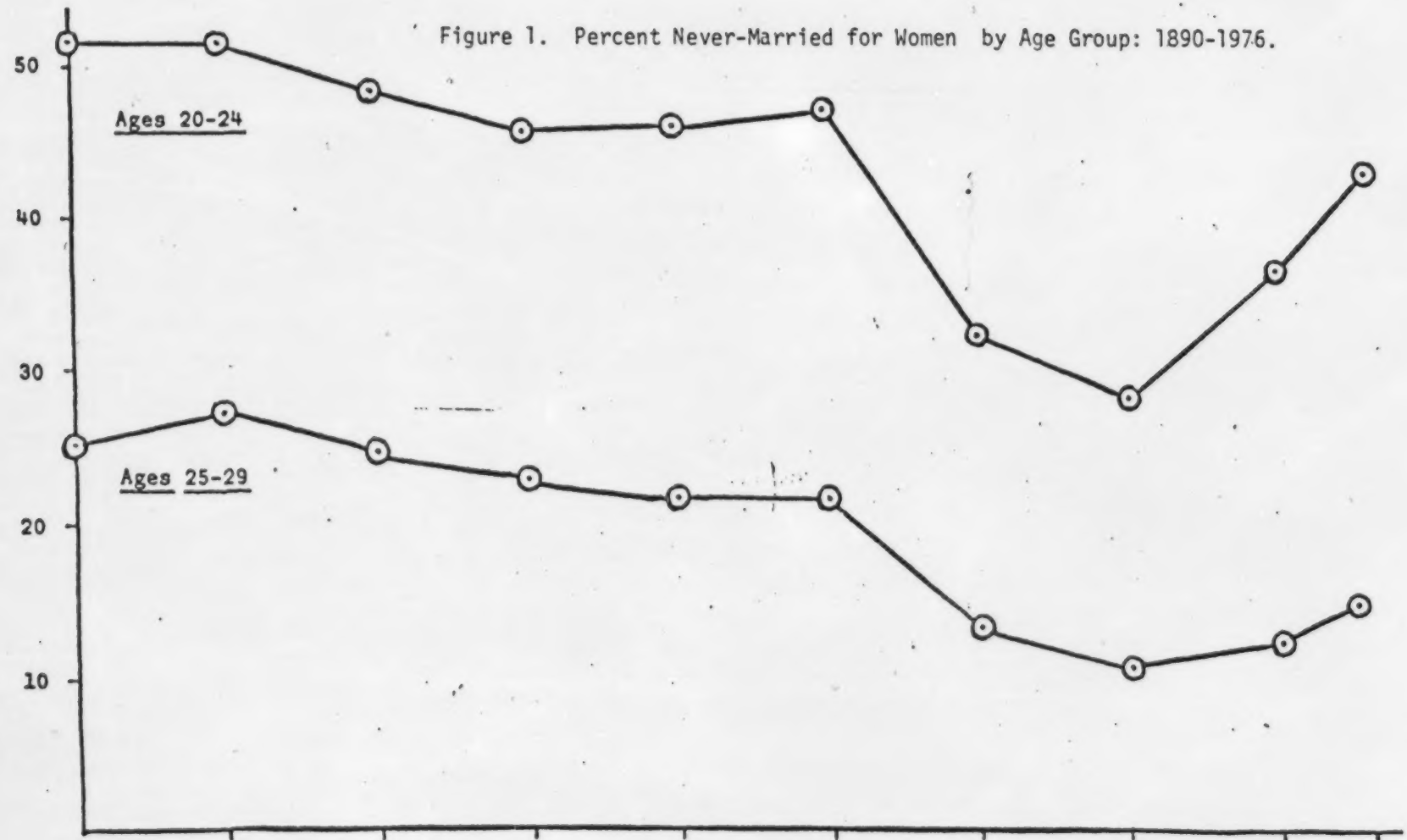
3. The means of the dichotomous dependent variables (which are equivalent to the proportion marrying within the next two years) are: .386 for whites aged 20-21; .220 for blacks aged 20-21; .338 for whites aged 22-23; and .257 for blacks aged 22-23.

4. The environmental variables added to the equations were: the state unemployment rate for women of the same age and race as the respondent; the state unemployment rate for men of the same race and two years older than the respondent, the demand for female labor in the woman's labor market (see Bowen and Finegan 1969), the average monthly payment per recipient in the state's Aid to Families with Dependent Children program, the ratio of the number of men in the state of the same race and two years older than the womer to the number of women in the state of the same race and age, the mean income of women aged 18-24 in the state, the mean income of men aged 18-24 in the state, and the state's crude divorce rate.

5. In other specifications, coefficients for the interaction effect of work plans and educational level did not increase the variance explained significantly.

6. Table 3 suggests that while increased schooling has a direct, positive effect on the probability of marriage for the single women in their early twenties, it may also have an indirect, negative effect. That is, more schooling may cause women to be more likely to plan to work at age 35 which would, in turn, make them less likely to marry. But further analyses I have performed show that this indirect, negative effect of more schooling is much weaker than the direct, positive effect.

Figure 1. Percent Never-Married for Women by Age Group: 1890-1976.



	1890	1900	1910	1920	1930	1940	1950	1960	1970	1976
20-24:	51.8	51.6	48.3	45.6	46.0	47.2	32.3	28.4	36.2	42.6
25-29:	25.4	27.5	24.9	23.1	21.7	21.8	I3.3	10.5	12.2	14.8

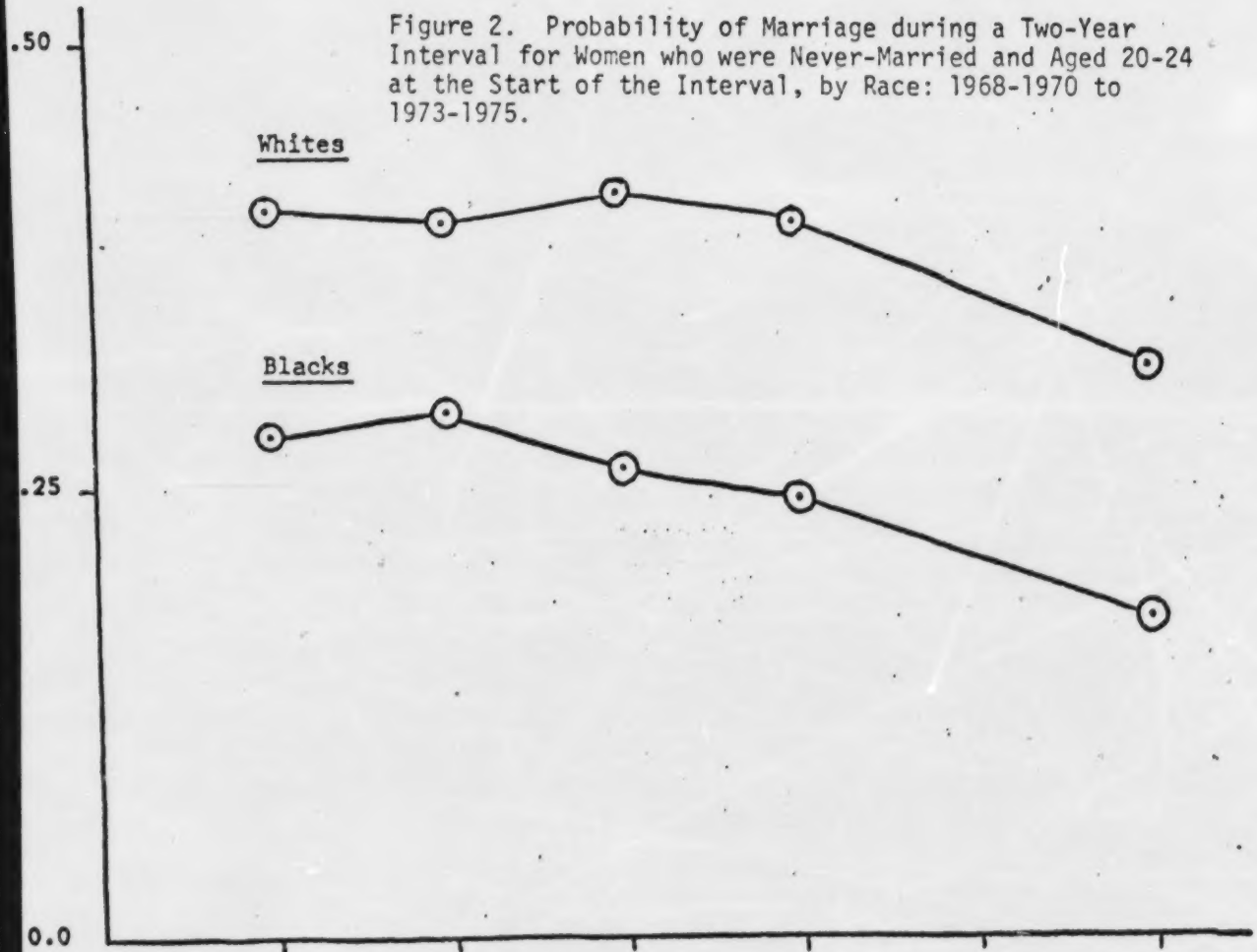
Figure 1 -- continued.

Sources:

U. S. Bureau of the Census. 1975. Historical Statistics of the United States, Colonial Times to 1970. Washington: U. S. Government Printing Office. (For 1890 to 1970.)

U. S. Bureau of the Census. 1976. Current Population Reports, Series P-20, No. 306. "Marital Status and Living Arrangements." Washington: U.S. Government Printing Office.

Figure 2. Probability of Marriage during a Two-Year Interval for Women who were Never-Married and Aged 20-24 at the Start of the Interval, by Race: 1968-1970 to 1973-1975.



	1968-1970		1969-1971		1970-1972		1971-1973		1973-1975	
	p	n	p	n	p	n	p	n	p	n
Whites	.405	486	.397	499	.415	531	.398	503	.315	523
Blacks	.278	205	.292	233	.261	253	.244	266	.177	327

Table 1. Estimated Parameters of Linear Probability and Linear Log-Odds Models of Marriage during a Two-Year Interval, For Women who were Never-Married at the Start of the Interval in 1969, 1971, and 1973 by Age and Race (t-statistics in parentheses).

A. Ages 20-21

	Whites			Blacks		
		Estimated Parameters			Estimated Parameters	
Independent Variables:	Mean	Linear Probability Model[c]	Linear Log Odds Model[d]	Mean	Linear Probability Model[c]	Linear Log Odds Model[d]
High school degree.	.399	.165 (2.16)**	.785 (2.14)**	.415	.0895 (1.76)*	.526 (1.73)*
1 year of college or more.	.546	.174 (2.12)**	.826 (2.12)**	.268	.124 (1.54)	.706 (1.54)
Enrolled full-time in school..	.414	-.0186 (0.37)	-.0758 (0.36)	.218	-.129 (1.67)*	-.738 (1.65)*
Plans for age 35: housewife	.458	.0665 (1.95)*	.283 (1.95)*	.262	-.0330 (0.71)	-.195 (0.71)
Weeks worked[a]	.559	.0658 (1.21)	.286 (1.22)	.401	.00205 (0.03)	.0109 10.03
Child of respondent present[b]	---	---	---	.440	-.0150 (0.45)	-.0939 (0.49)
Constant		.166	-1.50		.192	-1.45
F		2.54	---		1.12	---
x^2		---	13.0		---	6.73
R^2		.0147	---		.0155	---
n		858	858		436	436

Notes: see next page

(continued)

Table 1 -- Continued

B. Ages 22-23

Independent Variables:	Whites Mean	Whites Estimated Parameters: Linear Probability Model[c]	Whites Estimated Parameters: Linear Log Odds Model[d]	Blacks Mean	Blacks Estimated Parameters: Linear Probability Model[c]	Blacks Estimated Parameters: Linear Log Odds Model[d]
High school degree	.325	.163	.905	.427	-.0937	-.543
		(1.66)*	(1.69)*		(1.33)	(1.33)
1 to 3 years of college	.341	.134	.774	.199	-.0181	-.102
		(1.36)	(1.43)		(0.19)	(0.19)
4 or more years of college.	.269	.222	1.17	.0882	.278	1.26
		(2.27)**	(2.20)**		(2.53)**	(2.21)**
Enrolled full-time in school..	.183	-.0308	-.141	.110	.0276	.168
		(0.47)	(0.46)		(0.28)	(0.31)
Plans for Age 35: housewife.	.440	.115	.519	.283	.212	1.12
		(2.49)**	(2.47)**		(3.65)**	(3.55)**
Weeks worked[a]	.665	-.0474	.241	.529	.0706	.387
		(0.58)	(0.62)		(0.90)	(0.86)
Child of respondent present[b]	---	---	---	.585	-.00226	-.0187
					(0.06)	(0.08)
Constant		.104	-1.93		.177	-1.54
F		2.40	---		3.88	---
χ^2		---	15.7		---	24.3
R^2		.0323	---		.0933	---
n		464	464		272	272

a--proportion of weeks worked in previous year.
b--equals one if a child of the respondent is present in household or if respondent is responsible for at least half the financial support for a child of hers living elsewhere.
c--parameters are ordinary least squares estimates.
d--parameters are maximum likelihood estimates.
*--significant at the ten percent level.
**--significant at the five percent level.

Table 2. Work Plans for Age 35: Percent Saying "Housewife" for Single Women by Age and Race: 1969 to 1975.

	Whites				Blacks			
	20-21		22-23		20-21		22-23	
	%	n	%	n	%	n	%	n
1969	54.2	330	51.6	157	36.9	141	36.6	82
1970	47.2	330	48.0	179	33.1	151	33.3	75
1971	41.2	306	43.5	184	19.8	167	31.3	99
1972	38.6	316	32.2	171	20.6	189	26.4	106
1973	38.5	325	33.2	181	25.3	194	22.1	127
1975	24.3[a]	70[a]	26.5	196	22.7[a]	44[a]	17.9	151

Note: a--Age 21 only. There were no 20 year olds in the panel in 1975.

Table 3. Work Plans for Age 35: Percent Saying "Housewife" by Levels of Education, for Single Women by Age and Race: 1969 and 1973.

	Ages 20-21									
	Whites					Blacks				
	1969		1973			1969		1973		
	%	n	%	n	Change	%	n	%	n	Change
Less than 12 years.	50.0	20	57.1	21	+ 7.1	22.2	36	28.6	70	+ 6.4
12 years.	62.3	138	48.8	128	-13.5	47.7	65	29.4	68	-18.3
1 year college or more.	48.2	172	28.7	174	-19.5	32.5	40	14.8	54	-17.7

	Ages 22-23									
	Whites					Blacks				
	1969		1973			1969		1973		
	%	n	%	n	Change	%	n	%	n	Change
Less than 12 years.	22.2	9	30.0	10	+ 7.8	27.2	22	31.5	38	+ 4.3
12 years.	61.2	52	46.5	58	-14.7	44.4	36	24.0	50	-20.4
1 to 3 years college.	46.4	56	36.4	55	-10.0	35.0	20	9.1	22	-25.9
4 years college or more.	52.5	40	17,2	58	-35.3	25.0	4	12.5	16	-12.5

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